

REMARKS/ARGUMENTS

Claims 1-14 and 31-33 are pending herein. Claims 7 and 31 have been amended as supported by, for example, Figs. 18-22 of the present application. New claims 32 and 33 are added hereby as supported by, for example, page 41, lines 14-15 of the original specification.

Examiner Quan granted Applicants' request for a telephonic interview, and requested Applicants' representative (Steven Caldwell) to submit proposed amendments to the pending independent claims and a brief summary of the reasons why Applicants believe that the proposed amended claims overcome the art-based rejections of record. It was Applicants' representative's understanding that Examiner Quan would review the proposed amended claims with her supervisor (which is the only reason that a brief summary of arguments was also submitted on the fax transmittal sheet) prior to the interview and would tentatively inform Applicants' representative of whether the proposed amended claims would likely overcome the art-based rejections of record.

During the interview, Examiner Quan asserted that the proposed claim amendments introduced new issues after the final rejection, and therefore, she would not even discuss the claim amendments without Applicants first filing an RCE. This new position was surprising to Applicants' representative since Examiner Quan had previously agreed to review and discuss an informal draft of the proposed amended claims (which was submitted on September 9, 2003) during the scheduled telephone interview (on September 11, 2003).

In light of the above, in the event that Examiner Quan determines that any new rejections should be asserted against the pending claims, she is herein requested to contact the undersigned to schedule a mutually convenient time to conduct a telephonic interview before issuing the Office Action.

1. Claims 7 and 31 were rejected under §103(a) over Barth et al. in view of Dubrow et al. To the extent that this rejection might be applied against the amended claims, it is respectfully traversed.

Fig. 18 of the present application illustrates one embodiment of the claimed dispenser. Pending independent claims 7 and 31 each recite, among other things, that the dispenser includes a plurality of arranged micropipettes having a pouring port into which a sample solution is supplied. A holding section 160 for holding a pipette 142 is provided at a circumferential edge of the micropipette pouring ports. Pending independent claims 7 and 31

have each been amended to clarify that each holding section 160 is separately attached on an outer portion of the substrate at or proximate a circumferential edge of a respective pouring port.

The quality (e.g., detection and sensitivity) of the DNA chips produced using the claimed dispenser is enhanced by providing a separate holding section on the outer portion of the substrate at or proximate a circumferential edge of each micropipette pouring port. The holding section prevents the pipette tips from contacting and damaging the inner wall surface of the micropipette pouring ports. Such pipette tip abrasion forces tend to cause cracks or chipping in the ceramic material forming the inner wall of the pouring ports, which, in turn, tends to result in contaminates mixing with the preciously conserved DNA reagent solution inside of the dispenser cavity.

In addition to improving the quality of the DNA chips produced using the claimed invention, the manufacturing yield of the produced DNA chips can also be enhanced because, again, the claimed holding section prevents contamination of the DNA reagent solution in the dispenser cavity. Furthermore, because contaminant particles are effectively prevented from entering into, and thus damaging, the dispenser cavity, it is possible to realize an increase in the length of the overall operating life of the claimed dispenser.

The PTO acknowledges that Barth does not disclose a holding section and a holding section having a tube for receiving a pipette, as recited in pending independent claims 7 and 31, respectively.

The PTO is arguing that Dubrow discloses the claimed holding section and pipette receiving tube. Fig. 2F of Dubrow shows that a microfluidic device includes a cover layer portion 200 positioned on a body structure 100, which includes grooves or channels through which a fluid flows. The cover layer includes a plurality of apertures 206 aligned with and positioned on ports 106 in a upper layer 102 of the body structure. It is clear from all of Dubrow's drawings that apertures 206 are collectively formed in a single cover plate 200. This type of structure is disadvantageous because the bottom portion of cover plate 200 and the top portion of upper body 102 form a channel through which the sample solution is drawn by capillary action from one aperture 206 into adjacent apertures 206 to cause unwanted cross-contamination of the sample solutions contained in Dubrow's ports 106.

In contrast to the microfluidic device structure shown in Dubrow's drawings, pending independent claims 7 and 31 have each been amended to clarify that each holding section is

separately attached on an outer portion of the substrate at or proximate a circumferential edge of each respective micropipette pouring port. This separate attachment eliminates the channel present in Dubrow's structure, and thus eliminates cross-contamination of the DNA solutions. Accordingly, the claimed holding section structure not only avoids the above-discussed drawbacks of Dubrow's structure, but also improves the quality and manufacturing yield of the DNA chips produced using the claimed dispenser and increases the operating life of the dispenser.

In view of all the foregoing, reconsideration and withdrawal of the §103(a) rejection over Barth et al. in view of Dubrow et al. are respectfully requested.

New independent claims 32 and 33 have been added to further distinguish the present invention over the applied prior art, especially the Dubrow patent. For example, new claims 32 and 33 each recite that a portion of the claimed holding section is elastic. Use of elastic material further insures that the ceramic material forming the inner walls of the pouring ports is not damaged. Applicants respectfully submit that Dubrow's cover plate, which has a plurality of apertures formed therein, is formed entirely from a plastic material, and thus does not include an elastic component, as recited in new claims 32 and 33. Accordingly, new claims 32 and 33 provide further patentable distinctions over Dubrow.

2. Claims 8 and 12 were rejected under §103(a) over Barth et al. in view of Dubrow et al. and further in view of Douglas et al. or Higashino et al. or Hara et al. Applicants respectfully submit that the arguments submitted above distinguish claims 7 and 31 from the PTO's asserted combination of Barth and Dubrow. Since Douglas, Higashino and Hara do not overcome the deficiencies of Barth and Dubrow, and since claims 8 and 12 depend directly from claims 31 and 7, respectively, claims 8 and 12 are also believed to be allowable over the applied prior art.

3. Claim 9 was rejected under §103(a) over Barth et al. in view of Dubrow et al. and further in view of Hara et al. and/or Gautsch. Applicants respectfully submit that the arguments submitted above distinguish claim 31 from the PTO's asserted combination of Barth and Dubrow. Since Hara and Gautsch do not overcome the deficiencies of Barth and Dubrow, and since claim 9 depends directly from claim 31, claim 9 is also believed to be allowable over the applied prior art.

4. Claim 10 was rejected under §103(a) over Barth et al. in view of Dubrow et al. and further in view of Shimada et al. Applicants respectfully submit that the arguments

submitted above distinguish claim 31 from the PTO's asserted combination of Barth and Dubrow. Since Shimada does not overcome the deficiencies of Barth and Dubrow, and since claim 10 depends directly from claim 31, claim 10 is also believed to be allowable over the applied prior art.

5. Claim 11 was rejected under §103(a) over Barth et al. in view of Dubrow et al. and further in view of Nakano. Applicants respectfully submit that the arguments submitted above distinguish claim 31 from the PTO's asserted combination of Barth and Dubrow. Since Nakano does not overcome the deficiencies of Barth and Dubrow, and since claim 11 depends directly from claim 31, claim 11 is also believed to be allowable over the applied prior art.

6. Claims 7, 8, 12 and 31 were rejected under §103(a) over Barth et al. in view of Hara et al. To the extent that this rejection might be applied against the amended claims, it is respectfully traversed.

The PTO acknowledges that Barth does not disclose a holding section and a holding section having a tube for receiving a pipette, as recited in pending claims 7 and 31, respectively.

The PTO alleges that Hara discloses the claimed holding section and pipette receiving tube. Fig. 3 of Hara shows that an ink cartridge for an inkjet recorder includes an ink supply port 182 having a packing member 115 disposed therein (see, for example, column 5, lines 19-22). Ink supplying needles are inserted through packing member 115 and into ink supply port 182. The PTO appears to be arguing that an end portion of partition member 2 corresponds to a holding section that is attached on an outer portion of Hara's container body 1 at a circumferential edge of ink supply port 182. Hara, however, explicitly discloses (and illustrates in the drawings) that packing member 115 is disposed *within* each ink supply port (e.g., 180, 181 and 182) to prevent leakage (see column 4, lines 63-65 of Hara). Therefore, ink supply port 182 terminates at the bottom portion of container body 1. As such, in contrast to the PTO's position in the Office Action, Hara does not disclose or suggest that a holding section is attached on an outer portion of container body 1 at or proximate a circumferential edge of ink supply port 182. Consequently, Hara does not disclose or suggest the claimed holding section recited in each of pending independent claims 7 and 31.

In view of all the foregoing, reconsideration and withdrawal of the §103(a) rejection over Barth in view of Hara are respectfully requested.

7. Claims 7, 10 and 31 were rejected under §103(a) over Barth et al. in view of Shimada et al. To the extent that this rejection might be applied against the amended claims, it is respectfully traversed.

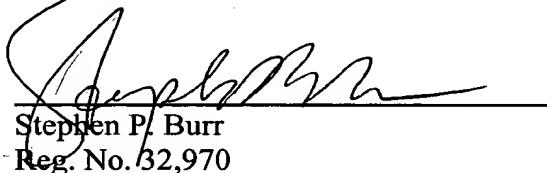
Shimada and Hara (discussed above) are both assigned to Seiko Epson Corporation and disclose substantially the same ink cartridge structure. Accordingly, for the reasons explained above with respect to the §103(a) rejection over Barth in view of Hara, Shimada does not disclose or suggest that a holding section is provided at a circumferential edge of each micropipette pouring port, as claimed.

In view of the foregoing, reconsideration and withdrawal of the §103(a) rejection over Barth et al. in view of Shimada et al. are respectfully requested.

If Examiner Quan believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, she is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,



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